
British Standard Specification for

Safety of household and similar electrical appliances

Part 202. Particular requirements

Section 202.27 Ultra-violet and infra-red radiation skin treatment appliances for household and similar use

Sécurité des appareils électrodomestiques et analogues

Partie 202. Règles particulières

Section 202.27 Appareils de traitement de la peau par rayonnements ultra-violets et infrarouges à usages domestiques et analogues

Sicherheit von Elektrogeräten für den Haushalt und ähnliche Zwecke

Teil 202. Besondere Anforderungen

Abschnitt 202.27 Hausgebrauch und ähnliche Zwecke mit Ultraviolett- und Infrarotstrahlen

This European Standard EN 60 335-2-27 : 1989 has the status of a British Standard

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National foreword

This Section of BS 3456 : Part 202 has been prepared under the direction of the Light Electrical Engineering Standards Policy Committee and is the English language version of EN 60 335-2-27, ‘Safety of household and similar electrical appliances : Part 2 : Particular requirements for ultra-violet and infra-red radiation skin treatment appliances’, published by the European Committee for Electrotechnical Standardization (CENELEC). It was derived by that organization from IEC Publication 335-2-27 (1978) edition 1, including Amendment No 1 (1984), which has a title similar to the European Standard.

The CENELEC Common Modifications have been implemented at the appropriate places in the text of IEC Publication 335-2-27 (1978) edition 1 into which Amendment No 1 (1984) has been incorporated, and are indicated by a side line in the margin. The foreword and preface of IEC Publication 335-2-27 (1978) edition 1, and the deleted parts of the original IEC text which do not form part of the text of EN 60 335-2-27 have been quoted in national appendix NA. Annexes designated ‘normative’ are part of the body of the standard. Annexes designated ‘informative’ are given for information only. National appendices are designated ‘informative’.

This Section of BS 3456 : Part 202 is to be read in conjunction with BS 3456 : Part 201 : 1990 ‘General requirements’, which it supplements or modifies. The many references to Part 1 should be read as references to BS 3456 : Part 201, which is the English language version of EN 60 335-1 which was derived from the 1983 reprint of IEC Publication 335-1 (1976) edition 2 including Amendments 1, 2 and 3 to IEC 335-1.

This Section of BS 3456 : Part 202 supersedes BS 3456 : Part 102 : Section 102.27 : 1987 which will be withdrawn on 28 February 1992 in accordance with the CENELEC Internal Regulations.

Cross-references. British Standards corresponding to international standards quoted in this standard are given in national appendix NC.

Product approval. Attention is drawn to the fact that products conforming to this British Standard may be approved by the British Electrotechnical Approvals Board for the purposes of participation in the CENELEC Certification Agreement and in the CB Scheme of the IECEE. (Details of the BEAB Approval Marks Scheme are given on the inside back cover.)

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Amendment No. 1

**published and effective from 15 October 1993
to BS 3456 : Part 202 : Section 202.27 : 1991**

**Specification for safety of household and similar
electrical appliances**

Part 202. Particular requirements

**Section 202.27 Ultra-violet and infra-red radiation skin
treatment appliances for household and similar use**

NOTE. The English language version of European Standard
EN 60335-2-27 was implemented in the United Kingdom by the
publication of BS 3456 : Section 2.27. This amendment implements
corrigendum 1 to the English version of EN 60335-2-27 issued in
May 1993.

Revised text

National foreword

After paragraph 4, insert the following new paragraph.

'The foreword of the EN makes reference to the 'date of withdrawal', dow, of the relevant national standard. In this case the relevant national standard is BS 3456 : Part 102 : Section 102.27 : 1987 which was withdrawn on 28 February 1992. Certificates and marks will not be awarded after this date with respect to the withdrawn British Standard. However such certificates and marks, already awarded, may continue to apply to production until 1 March 1994.'

AMD 7963/October 1993

EN foreword

Delete paragraph 4 and substitute the following.

'For products which have complied with
HD 272 S3 : 1987 before 1992-03-01, as shown by the
manufacturer or by a certification body, this previous
standard may continue to apply for production until
1994-03-01.'

AMD 7963/October 1993

UDC 621.365:64-621-83:64:614.8.004.1-777:621.396.669.8

Key words: Household electrical appliance; ultra-violet and infra-red radiation skin treatment appliance; protection against electric shock; protection against fire risk; protection against mechanical hazard

English version

Safety of household and similar electrical appliances Part 2: Particular requirements for ultra-violet and infra-red radiation skin treatment appliances for household and similar use

(IEC 335-2-27 (1978) 1st edition + Amdt 1 (1984), modified)

Sécurité des appareils électrodomestiques
et analogues
Deuxième partie: Règles particulières pour les
appareils de traitement de la peau par
rayonnements ultra-violet et infrarouges à
usages domestiques et analogues
(CEI 335-2-27 (1978) 1ère édition +
Amdt 1 (1984), modifiée)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2: Besondere Anforderungen für
Hautbehandlungsgeräte für den Hausgebrauch und
ähnliche Zwecke mit Ultraviolett- und
Infrarotstrahlen
(IEC 335-2-27 (1978) 1. Ausgabe +
Amdt 1 (1984), modifiziert)

This European Standard was ratified by CENELEC on 28 June 1988.

This European Standard exists in three official versions (English, French, German).
A version in any other language made by translation under the responsibility of a
CENELEC member into its own language and notified to the CENELEC Central Secre-
tariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of: Austria, Belgium,
Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxemburg, Nether-
lands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue Bréderode 2, B-1000 Brussels

Brief history

The proposal to endorse Amendment No. 1 to the first edition of IEC Publication 335-2-27, document CENELEC/TC 61 (SEC) 416, was circulated under the enquiry procedure in September 1984.

This proposal was discussed during the Sorrento meeting in February 1986 when it was decided to submit a draft for EN 60 335-2-27 to the voting procedure, based on the first edition of IEC Publication 335-2-27 and its Amendment No. 1, taking into account the technical content of HD 272 S3. This procedure started in July 1987.

The text of this draft was approved during the Brighton meeting in October 1987 and ratified by the CENELEC Technical Board on the 28th of June 1988.

The proposal to endorse a draft amendment to IEC Publication 335-2-27 dealing with requirements concerning ultra-violet radiation, document CENELEC/TC 61 (SEC) 502, was circulated under the enquiry procedure in August 1986 and amended by document CENELEC/TC 61 (SEC) 502A in November 1986.

This proposal was discussed during the Brussels meeting in May 1987 when it was decided to submit a draft for an amendment to EN 60 335-2-27 to the voting procedure. This procedure started in December 1987.

The text of this draft was approved during the Neusiedl meeting in May 1988 and ratified by the CENELEC Technical Board on the 28th of June 1988. It has been incorporated in EN 60 335-2-27.

Foreword

This European Standard has been prepared by the Secretariat of CENELEC Technical Committee 61.

The following dates are applicable:

- date of announcement (doa) 1989-09-01
- date of latest publication (dop) 1990-03-01
- date of withdrawal of conflicting national standards (dow) 1992-03-01

This European Standard replaces HD 272 S3.

For products which have complied with HD 272 S3 (1987) before 1992-03-01, as shown by the manufacturer or by a Certification Body, this previous standard may continue to apply for production until 1997-03-01.

This document supplements or modifies the corresponding clauses of IEC 335-2-27, first edition including its Amendment No. 1, so as to convert that standard into the European Standard EN 60 335-2-27, which has to be used in conjunction with EN 60 335-1 (1988), Safety of household and similar electrical appliances, Part 1: General requirements.

Sub-clauses and figures which are in addition to those in IEC 335-2-27 are numbered starting with 601.

There are no special national conditions (snc) causing a deviation from this European Standard, other than those listed in Annex ZX of EN 60 335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZY of EN 60 335-1.

NOTE. Where reference is made to other harmonized standards, the latest edition of that standard is applicable.

The following print types referred to in the preface of IEC 335-2-27 are used:

- requirement proper: in roman type
- *test specifications*: in italic type
- explanatory matter: in smaller roman type

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SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for ultra-violet and infra-red radiation skin treatment appliances for household and similar use

1. Scope

This clause of Part 1 is applicable except as follows:

1.1 *Replacement:*

This standard applies to radiation appliances for skin treatment provided with ultra-violet or infra-red emitters or a combination thereof, for household and similar use.

Appliances provided with emitters in the form of discharge lamps or of tungsten filament lamps, or a combination thereof, must also comply with EN 60 598-1: Luminaires, Part 1: General Requirements and Tests.

Appliances not intended for normal household use, but which nevertheless may be a source of danger to the public, such as appliances intended to be used in tanning salons, beauty parlours and similar locations, are within the scope of this standard.

This standard does not take into account the special hazards which exist in nurseries and other places where there are young children or aged or infirm persons without supervision; in such cases, additional requirements may be necessary.

This standard does not apply to:

- appliances for medical purposes;

For UV type 1, UV type 2 and UV type 4 appliances, additional requirements are under consideration.

For appliances intended to be used in tropical countries, special requirements may be necessary.

Attention is drawn to the fact that in many countries additional requirements are specified by the national health authorities and other national authorities responsible for safety in the home.

2. Definitions

This clause of Part 1 is applicable except as follows:

2.2.29 *Replacement:*

Conditions of adequate heat discharge denote that the appliance is operated continuously in still air.

For appliances provided with a timer the maximum setting of which is not sufficient to obtain steady conditions, the timer is restarted immediately each time, until steady conditions are established.

Additional definitions:

- 2.2.101 *Ultra-violet emitter* denotes a radiating source designed to emit energy at wavelengths of 400 nm and less, disregarding the screening effect of any screen or guard that may enclose it.

Wavelengths exceeding 400 nm are considered to produce radiant heat.

2.2.102 *Infra-red emitter* denotes a radiating source designed to emit energy at wavelengths of 800 nm and more, disregarding the screening effect of any screen or guard that may enclose it.

2.2.103 *UV type 1 appliance* denotes an appliance provided with an ultra-violet emitter such that the biological effect is caused by radiation having wavelengths longer than 320 nm and characterized by a relatively high irradiance in the range of 320 nm to 400 nm.

2.2.601 *UV type 2 appliance* denotes an appliance provided with an ultra-violet emitter such that the biological effect is caused by radiation having wavelengths both shorter and longer than 320 nm and characterized by a relatively high irradiance in the range of 320 nm to 400 nm.

2.2.602 *UV type 3 appliance* denotes an appliance provided with an ultra-violet emitter such that the biological effect is caused by radiation having wavelengths both shorter and longer than 320 nm and characterized by a limited irradiance over the whole UV radiation band.

2.2.603 *UV type 4 appliance* denotes an appliance provided with an ultra-violet emitter such that the biological effect is mainly caused by radiation having wavelengths shorter than 320 nm.

3. General requirement

This clause of Part 1 is applicable.

4. General notes on tests

This clause of Part 1 is applicable except as follows:

4.13 Not applicable.

Additional sub-clauses:

4.101 *Unless adequate means are provided to fix the appliance securely to a wall and clear instructions for mounting accompany the appliance, appliances intended to be fixed to a wall and provided with a power supply cord and a plug are tested either as stationary appliances or as portable appliances, whichever gives the more unfavourable result.*

Key-hole slots, hooks and the like are not considered to be adequate means for fixing the appliance securely to the wall.

4.102 *Appliances with a selector switch for operation in either an ultra-violet or an infra-red position are tested for both modes of operation.*

5. Rating

This clause of Part 1 is applicable.

Other IEC Publication quoted in this standard:

Publication No.598-1: Luminaires, Part 1, General Requirements and Tests.

6. Classification

This clause of Part 1 is applicable except as follows:

6.1 Addition:

3. According to ultra-violet radiation:

- UV type 1 appliances;
- UV type 2 appliances;
- UV type 3 appliances;
- UV type 4 appliances.

7. Marking

This clause of Part 1 is applicable except as follows:

7.1 Addition:

UV appliances shall be marked with the appropriate UV type number in the following form:

UV type x (where x is to be replaced by the appropriate number).

Appliances provided with a replaceable ultra-violet emitter shall be marked with the type reference of the emitter. UV appliances shall be marked with the substance of the following:

WARNING: Ultra-violet radiation may cause injury to eyes and skin. Read instructions carefully.
Wear protective goggles. Certain medicines and cosmetics may increase sensitivity.

UV appliances having a luminance exceeding 100 000 cd/m² measured as described in Sub-clause 32.602, shall be marked with the substance of the following:

WARNING: Intense light. Do not stare at the emitter.

For UV appliances intended only for use in tanning salons, beauty parlours and similar locations, the first warning may alternatively be given on a permanent label intended to be fixed on the wall adjacent to the appliance and the text "Read instructions carefully" may be replaced by "Consult the attendant for further information".

If the two warnings are combined, the word WARNING need not be repeated.

7.2 Not applicable.

7.12 Addition:

The instruction sheet shall give clear information with regard to safe and proper use of the appliance.

For appliances provided with an infra-red emitter, the instruction sheet shall include advice for the protection of the eyes against exposure to infra-red radiation and advice that adequate precautions must be taken to safeguard the user against the dangers of excessive exposure.

For UV appliances, the instruction sheet shall include the substance of the following information:

- identification of replaceable ultra-violet emitters as well as of alternative components which influence the ultra-violet radiation, such as filters and reflectors,
- information concerning the intended exposure distance, unless this is controlled by the construction of the appliance,
- recommended schedule of exposure, taking into account exposure times, distances, intervals between exposures, etc. and individual skin sensitivity; the recommended exposure time for the first session must not be shorter than 1 min,
- recommended number of exposures which should not be exceeded in one year,
- the appliance must not be used if the timer is faulty or the filter is broken.

The recommended exposure time for the first session for untanned skin is to be either corresponding to a dose not exceeding 100 J/m^2 weighted according to the ultra-violet action curve shown in Figure 601 or based upon the result of a test on a small area of the skin.

The recommended number of exposures for each part of the body is to be based upon a maximum yearly dose of 25 kJ/m^2 , weighted according to the ultra-violet action curve and taking into account the recommended schedule of exposure.

Moreover, the instruction sheet shall contain the substance of the following information:

- Ultra-violet radiation from the sun or from UV appliances can cause skin or eye damage. These biological effects depend upon the quality and quantity of the radiation as well as upon the skin sensitivity of the individual.
- The skin may develop sunburn after an excessive exposure. Excessively repeated exposures to ultra-violet radiation from the sun or from UV appliances may lead to premature ageing of the skin as well as to an increased risk of development of skin tumours.
- The unprotected eye may develop surface inflammation and, in certain cases, damage may occur to the retina after excessive exposure. Cataract may develop after many repeated exposures.
- Special care is necessary in cases of a pronounced individual sensitivity to ultra-violet radiation and in cases where certain medicines or cosmetics are used.

Therefore, the following precautions are to be taken:

- always use the protective goggles provided;
- remove cosmetics well in advance of exposure and do not apply any sunscreens;
- do not undergo exposure when taking medicines which increase the sensitivity to ultra-violet radiation; if in doubt, take medical advice;
- do not expose any part of the body more than once a day and do not sunbathe the same day;
- adhere to the recommendations concerning exposure times, intervals between exposures and distances from the lamp;
- seek medical advice if persistent lumps, sores or pigmented moles develop on the skin.

For appliances provided with a lid which has to be opened in normal use and which do not withstand the test of Sub-clause 19.2 with the lid in the closed position, the instruction sheet shall also include a warning that the appliance must not be switched on with the lid in the closed position and that, before closing the lid for storage, it must be disconnected from the supply and allowed to cool down.

8. Protection against electric shock

This clause of Part 1 is applicable except as follows:

8.1 *Modification:*

Instead of using the test probe for visibly glowing heating elements and parts supporting such elements, the standard test finger is used.

8.2 *Addition:*

For Class I appliances, the surface intended to support a person is to be of insulating material or, if not, the metal parts on this surface are liable to come into contact with the body of a person, these metal parts are to be separated from live parts by double insulation or reinforced insulation.